Community Water Fluoridation
Resources, Research, and
75 Years in Review

Tooka Zokaie, MPH, CPH
Manager, Fluoridation and Preventive Health Activities
AACDP Webinar Series 2020
Polling

Please respond to the two polling questions
Community Water Fluoridation 2019

Initiations or Reaffirmations

- VA
- TX
- FL
- MA
- PA

Rollbacks

- PA
- IA
- CO
- VA
- SC
- WY

9

7
A Mom's Guide to Fluoride

By Dr. Brittany Seymour
Assistant Professor, Harvard School of Dental Medicine

It was my first year out of dental school, and I was treating a two-and-a-half-year-old girl who grew up in a community without fluoride in the water. Her four front teeth were so badly decayed, painful and infected that I had to remove them completely. For a tiny toddler, the lights and sounds of the dental chair can feel terrifying. Although she was scared and crying, she held perfectly still while I treated her. I was so proud of her.


https://ebusiness.ada.org/productcatalog/124/Fluoride/Fluoride-Natures-Cavity-Fighter/W102
Fluoride and Fluoridation Articles in the Journal of the American Dental Association

Caries lesion remineralizing potential of fluoride-and calcium-containing toothpastes (May 2019)

Preventive oral health care use and oral health status among US children (April 2019)

Your child's teeth (Feb 2019)

Preventive dental care use for children with special health care needs in Washington's Access to Baby and Child Dentistry program (Jan 2019)

Access to preventive services after the integration of oral health care into early childhood education and medical care (Dec 2018)

Evidence-based clinical practice guideline on nonrestorative treatments for carious lesions: A report from the American Dental Association (Oct 2018)

Options for dealing with tooth decay (Oct 2018)

Enamel remineralization therapies for treating postorthodontic white-spot lesions (Sept 2018)

Community Water Fluoridation Linked to Reduced Caries in U.S. Children and Adolescents, Researchers Report (Sept 2018)

Silver diamine fluoride seems to be effective in preventing and arresting root caries in older adults compared with placebo, but there is very low certainty in the magnitude of the benefit (Aug 2018)
ADA Fluoridation Resources

Fluoridation Facts 2018 Edition
National Fluoridation Advisory Committee (NFAC)

Fluoridation Facts is available in its digital form (E-Book and PDF) at NO COST

Technical Resources
www.ada.org/fluoride
New Research

• New research can lead to confusing headlines and conclusions
• It is important to use evidence-based practices to share the accurate findings with providers and patients
Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada

• On August 19, 2019 – JAMA Pediatrics released an article investigating an association between Fluoride levels in the urine of pregnant mothers and their children’s IQ 3-4 years later

• The findings found only a gender association with an average 3.7 IQ difference in boys and no association in girls

https://jamanetwork.com/journals/jamapediatrics/fullarticle/2748634?resultClick=1
Inconsistent Findings

• Previous studies found no association in boys but in girls; suggests that gender difference is **not consistent**
• IQ studies are not always reliable unless replicated multiple times
• Fluoride exposure is not only from water but other consumed products as well
• Research Implication: **No conclusive findings** but it is recommended to continue research
Headlines...

JAMA Pediatrics Publishes Study Linking Fluoride During Pregnancy to Decreased IQ in Children

Controversial study links drinking fluoridated water during pregnancy to lower IQ in children

Study Links Fluoridated Water During Pregnancy to Lower IQs

The findings could undermine public-health messaging, fuel conspiracy theorists, and give pregnant women something else to worry about.

Do you need to worry about fluoride during pregnancy?

It's in your toothpaste and mouthwash, and there's a good chance you're drinking it, too. But recent research says certain levels of fluoride might not be safe for babies in utero. Here's what you need to know.

By Arlene Kardis | Nov 21, 2019

The prestigious Journal of the American Medical Association has published a study linking fluoride ingestion by pregnant mothers with low IQ in their offspring.

Study raises questions about fluoride and children's IQ
Responses from Leaders in Research

The following organizations gave statements on the study’s limitations and the safety of Community Water Fluoridation:

1. American Dental Association
2. American Dental Hygiene Association
3. American Academy of Pediatrics (Oral Health Executive Committee and Council on Environmental Health)
4. American Council on Science and Health
5. John Hopkins Bloomberg School of Public Health
6. American Association of Dental Research
7. Professor Emeritus of Environmental Toxicology at the University of Leeds in England
National Toxicology Program Fluoride Monograph

Draft Monograph on the Systematic Review of Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects

• The National Toxicology Program is creating a monograph, or systematic review, of fluoride exposure and neurodevelopmental and cognitive health effects

• On November 6th, 2019, the Overview of the Systematic Review shared that the team found a “moderate level of evidence that high fluoride exposure is associated with decreased IQ and other cognitive effects in children”.
Draft Monograph Conclusion

• Following hazard rating of fluoride: *presumed to be a cognitive neurodevelopmental hazard to humans*

• The Report investigators concluded that a hazard identification document “does not mean the same thing as risk”

• It is important to note that the language used has to do with exposure to fluoride at any level and *the NTP does not put modifiers* on the presumed classification
ADA’s Letter to the Monograph Committee

1. Change the hazard classification from “presumed” to “unknown”
2. If the classification remained as “presumed” to add a modifier of “high” or “above 1.5ppm”

“Our panel of experts concluded that the available literature is insufficient to establish causation between fluoride exposure as experienced in the United States and neurocognitive development,” wrote Drs. Gehani and O’Loughlin. “It found that the literature generally is either lacking, unreliable, inconclusive, conflicting or subject to widespread interpretation.”
1. The literature review did not take into account the lack of support for a neurobehavioral effect of fluoride from animal studies conducted in the U.S.

2. No meta-analysis was conducted to determine a summary effect size (does not take into account measurement error)

3. The characterization that effect sizes observed were of relatively large magnitude is not consistent with the data that show small effect sizes

4. There are no prospective epidemiological studies that were designed to assess the neurobehavioral effects of fluoride.
National Academies do not support NTP Draft Conclusion

• March 2020

• The National Academies report does not find that NTP has adequately supported its conclusion that “fluoride is presumed to be a cognitive neurodevelopmental hazard to humans.”

• The committee emphasized further analysis or reanalysis is needed to support conclusions in the monograph.
National Fluoridation Advisory Committee of the Council on Advocacy for Access and Prevention

NATIONAL FLUORIDATION ADVISORY COMMITTEE

Dr. Leon Stanislav
Chair, National Fluoridation Advisory Committee

Dr. Jayanth Kumar
Dental Director, State of California
Center for Chronic Disease Prevention and Health Promotion at the California Department of Public Health

Dr. Howard Polllick
Fluoridation Consultant, California
Department of Public Health
Health Sciences Clinical Professor, Preventive & Restorative Dental Sciences

Dr. Angeles Martinez Mier
Professor and Chair, Cariology, Operative Dentistry and Dental Public Health
Indiana University School of Dentistry

Dr. Brittany Seymour
Global Health Discipline Director
Assistant Professor
Department of Oral Health Policy and Epidemiology
Harvard School of Dental Medicine

Dr. Steven Levy
Wright-Bush-Shreves Professor of Research
Graduate Program Associate Director, Dental Public Health
Department of Preventive and Community Dentistry
Professor, Department of Epidemiology
College of Public Health
University of Iowa

Dr. Karin Arsenault
Clinical Director, Geriatric Center Program
Department of Public Health and Community Service
ADA Fluoridation Webinar Series

- The Power of Safe Drinking Water and Caries Prevention
  July 7th from 12-1:30pm CST

- Fluoridation Advocacy: How to Share Evidence-Based Findings to Lay Audiences
  July 14th from 12-1:30pm CST

- Mom’s Guide to Fluoride
  July 27th from 12-1:30pm CST

- Fluoridation Public Hearings and Grassroots Campaigns
  July 29th from 12-1:30pm CST

Register at: ada.org/fluoride4health75
If you have any questions…

Tooka Zokaie

zokaiet@ada.org
Manager, Fluoridation and Preventive Health Activities
Council on Advocacy for Access and Prevention
312.440.2862